

The Least Restrictive Environment

A Place or a Context?

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ABSTRACT

One of the fundamental values built in to current special education practice is the notion of equity for students with disabilities. In a review regarding the least restrictive environment (LRE), Yell (1995) said, "LRE is a principle stating that students with disabilities are to be educated in settings as close to regular classes as appropriate for the child" (p. 193). Although almost all stakeholders agree with these goals in principle, there is significant and heated debate in the professional community about how to achieve these goals. Much of the discussion on LRE seems to reflect a specific place—a physical context such as the general education classroom. In this article, we draw on a sociocultural framework to propose an expanded view of LRE. Specifically, we argue that a focus on the physical setting is not the most appropriate unit of analysis. Rather, we suggest that the same placement or setting can be either facilitating or restrictive, depending on the social organization of specific activity settings that comprise a given context. A different view is provided by sociocultural theory, which proposes a unit of analysis that includes the individual in interaction with a specific activity setting.

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While almost all stakeholders agree with these goals in principle, there is significant and heated debate in the professional community about how to achieve these goals. Often, these disagreements have centered on specific aspects such as mainstreaming and full inclusion (see, for example, Council for Exceptional Children, 1993; Learning Disabilities Association, 1993; National Association of State School Boards of Education, 1992; National Joint Committee on Learning Disabilities, 1993). Although these disagreements are significant, it appears that much of the discussion on LRE seems to reflect a view of LRE as a specific place—a physical context such as the general education classroom.

In this article, we draw on a sociocultural framework to propose an expanded view of LRE. Specifically, we argue that a focus on the physical setting is not the most appropriate unit of analysis. Rather, we suggest that the same placement or setting can be either facilitating or restrictive, depending on the social organization of specific activity settings that comprise a given context. It is likely that the focus on the individual in isolation from the social context is related to the strong influence of early medical underpinnings of special education. However, a different view is provided by sociocultural theory, which proposes a unit of analysis that includes the individual in interaction with a specific activity setting.

We begin with a brief description of our sociocultural perspective on learning and development, with a special focus on the social nature of learning and development, activity settings, and social context. We next draw on work we have been conducting after school: computer-mediated learning environments that illustrate how students can look more compe-

ONE OF THE FUNDAMENTAL VALUES BUILT IN to current special education practice is the notion of equity for students with disabilities. Under current federal legislation, the Individuals with Disabilities Education Act (IDEA) is operationalized with the requirements that states must provide a free appropriate public education to qualified students, to the maximum extent possible a child with disabilities must be educated in the least restrictive environment (LRE), and education is to be individualized and appropriate to the child's needs. In a review of this issue, Yell (1995) said, "LRE is a principle stating that students with disabilities are to be edu-

tent or less competent depending on the features of the social context, even in the same physical setting. Finally, we discuss how this approach can provide a more precise analytic framework for thinking about the LRE and appropriate learning environments.

A SOCIOCULTURAL APPROACH TO LEARNING AND DEVELOPMENT

Sociocultural theory in general, and extensions of this work by Rogoff (1995) in particular, served as the foundation of this work. Briefly, Rogoff proposed a view of learning and development as a dynamic process of *transformation of participation* in a given community of learners. Rogoff's framework orients the researcher to answer questions such as, What are the activities in which people participate? Why do they participate in them? With whom do they participate? With what artifacts do they participate? How do the activity, its purpose, and peoples' roles in it transform? How do different activities relate to each other currently, historically, and prospectively? Participation in any sociocultural activity occurs on many planes or levels of interaction.

Rogoff (1995) suggested that a complete account of learning and development must consider an examination at a minimum of three levels: The personal plane, involving individual cognition, emotion, behavior, values, and beliefs; the interpersonal or social plane, including communication, role performances, dialogue, cooperation, conflict, assistance, and assessment; and the community or institutional plane, involving shared history, languages, rules, values, beliefs, and identities.

Activity Setting

Sociocultural theory in general emphasizes that these three planes are inseparable; moreover, language is the primary force that defines and connects these planes. Although one plane might be "foregrounded" and the other planes "backgrounded," for a particular study or analysis a complete account of learning and development needs to consider all three. In practice, the smallest unit of analysis that contains all three planes simultaneously is the activity setting, or the who, what, when, where, why, and how of the routines that constitute everyday life (Ashton, 1996; Tharp & Gallimore, 1988). It is important to note that in this framework, the unit of analysis is greater than the individual—that is, it is the individual in interaction with others in a specific activity setting. This unit of analysis, along with the practice of foregrounding and backgrounding various planes of development for different purposes, are the key elements of a sociocultural approach to learning and development.

Social Context

One common theme in traditional psychology approaches is that characteristics such as competence or incompetence are

thought to reside primarily within the individual. This naturally leads to the view that the individual is the proper target of intervention. In contrast, the sociocultural perspective focuses on features of the basic social organization and the underlying assumptions of a given social context, and considers the effects these might have on students' participation and competence as well as how the individual transforms the context. Some researchers have found that students' perceived competence can vary widely, depending on the context. For example, Varenne and McDermott (McDermott, 1993; McDermott & Varenne, 1995; Varenne & McDermott, 1998) found that children assessed as unsuccessful in school often exhibit great competency in non-school-based activities. Moll, Diaz, Estrada, and Lopes (1992) found that the social organization of the classroom affected bilingual children's academic performance as well as the teacher's assessment of their competence. In the sociocultural perspective, competence is a cultural phenomenon—that is, a product of the individual and the social context in interaction. A central concern, therefore, is how the social organization of schooling can be arranged to maximize learning. We argue that the use of activity setting as unit of analysis even within the same context is instrumental for identifying students' competencies as well as identifying features for the construction of effective learning environments—in educational terms, the basis of the LRE.

THE FIFTH DIMENSION: A MEDIATED ACTIVITY SYSTEM

The Fifth Dimension Project is a central piece of the Distributed Literacy Consortium (DLC), originating at the Laboratory of Comparative Human Cognition at the University of California, San Diego. Each Fifth Dimension site is a cultural system containing rules, artifacts, and a division of labor that mixes play, education, and peer interaction. The three overarching goals of the Fifth Dimension Project are to create sustainable activity systems in different institutional settings, facilitate cognitive and social development, and provide a context in which undergraduate students from disciplines such as developmental psychology, communications and teacher education have opportunities to observe and test theories of learning, development, and instruction. The goal is to ground abstract concepts presented in university courses in the everyday activity of children as the university students deliver community service to children in the local community. As part of a larger DLC in which these projects are embedded, the authors comprised one of three evaluation teams that investigated various aspects of selected sites.

Fifth Dimension activities take place after school in Boys' and Girls' Clubs, YMCAs/YWCAs, recreation centers, and public schools. These settings were strategically chosen because they generally represent unsupervised or unproductive time for many of the students. Several important features of the Fifth Dimension Project are that children's participa-

tion is voluntary, all systems mix play with education, and all systems are intergenerational in their constitution.

In the Fifth Dimension Project, a game board in the form of a maze with different rooms is used to organize children's activities with computers. Each room on the board represents a different level of difficulty and provides varied opportunities for children to master knowledge and skills in subject matter areas such as reading, writing, math, history, geography, health, problem solving, and technology. Children travel through different rooms in the maze and keep track of their progress by using a marker that is moved around the maze as activities are successfully completed. The children can choose to try different rooms, based on the level of mastery they attain at playing each game. Children are encouraged to set their own goals, develop strategies, and make decisions independently.

Although computers and telecommunications networks are central to Fifth Dimension activities, generally the level of technology is low, depending on the type of low-end microprocessors that communities are likely to provide through donations and on off-the-shelf software (e.g., Carmen San Diego™, Inner Body Works™). Access to the Internet is an important element of each system, linking each site to the overall consortium. Children also have opportunities to engage in collaborative activities through telecommunication with children at other sites. The Wizard, Golem, El Maga, or the Volshebnik, mythical figures who created the Fifth Dimension, also interact with children through telecommunications. The interrelated activity systems of the Fifth Dimension are represented in Figure 1.

On the right side of the figure are three systems that constitute the immediate external context in which each Fifth Dimension site operates. For example, each site is linked with a university node, represented by the University circle. Each university provides various types of support (i.e., labor in the form of undergraduate students or funding for the class), as well as constraints. Each site is also embedded in a specific community with its own unique history and characteristics. Finally, an extended Mellon Community comprises participants in the larger DLC. These are not hierarchical relationships among the various systems, but are mutually interactive in ways that differ for each site. These systems and their relationships are also dynamic, reflecting changes over time.

The graphic on the left side of the figure represents our view of the "unpacking" of the critical elements at each Fifth Dimension site and the relationships among these elements. The set of embedded circles represents a single site. At the core are routines: the patterned, regular sequences of activities and behaviors that constitute the day-to-day life in each site. The routines are mediated and supported by the artifacts available at each site. Artifacts include such things as the maze, computers, games, and children's game board markers. In turn, the artifacts are embedded in physical settings, which are locations where specific activities occur. There are important differences among the sites in terms of the physical layouts that serve to partially define the nature of each site.

At the next level are participants—students, undergraduate students, site coordinators, evaluation team members, parents, visitors, and so on. The participants are also moving around the system, depending on their location within it. For example, the undergraduate students come and go every semester, yet once inside, they move according to the established structure of the Fifth Dimension. The movement of evaluation team members, on the other hand, is unrestricted, allowing them to follow activities, see changes in the structure, and note when breakdowns have occurred. When these constellations are taken together, they characterize what we have come to refer to as "themes," or generalized "personality" characteristics that differentiate the various sites (e.g., computer literacy, a service orientation, primary language maintenance, community involvement).

In our investigation of a select number of sites, data representative of each of the three planes of analysis (Rogoff, 1995) were collected. At the institutional plane data sources included university course syllabi and university student applications to participate (these provide both a site's characterization of itself and students' understandings about the nature of the Fifth Dimension); student surveys regarding academic background, experience with children, the local community, and computer experience; and interviews with key participants at each site. At the interpersonal plane the following data sources were collected: undergraduate student field notes taken as part of fulfilling the course requirements, twice per week, regarding features of their interactions with children; and research team field notes (one member of the team was assigned to each of the four research sites reported on in this presentation). We routinely visited the research site (typically one or two times per week over a 2-year period) and became familiar with the operations at the site and the participants (children, university students, staff). Finally, the personal plane was represented by student performance on the Language Assessment Scales (DeAvila & Duncan, 1991), a standardized measure of children's language proficiency in both English and Spanish and the Ace Reporter Reading and Writing task, an embedded computer game simulating a newsroom setting.

COMPETENCE AS A SOCIOCULTURAL CONSTRUCT: THE CASE OF JIMMY

A primary aim of this article is to suggest an alternative perspective to the concept of LRE, moving from the notion of a purely physical placement to a more focused view that takes into account the specific elements of each activity setting within a given context. The foundation for this argument is our ongoing observations of many of the children who participate at the Fifth Dimension sites we have been investigating. Many of the children who participate at these sites are considered at risk (based on poor grades, behavior problems, attendance, family problems, and so on), have received special education, have diverse linguistic and cultural back-

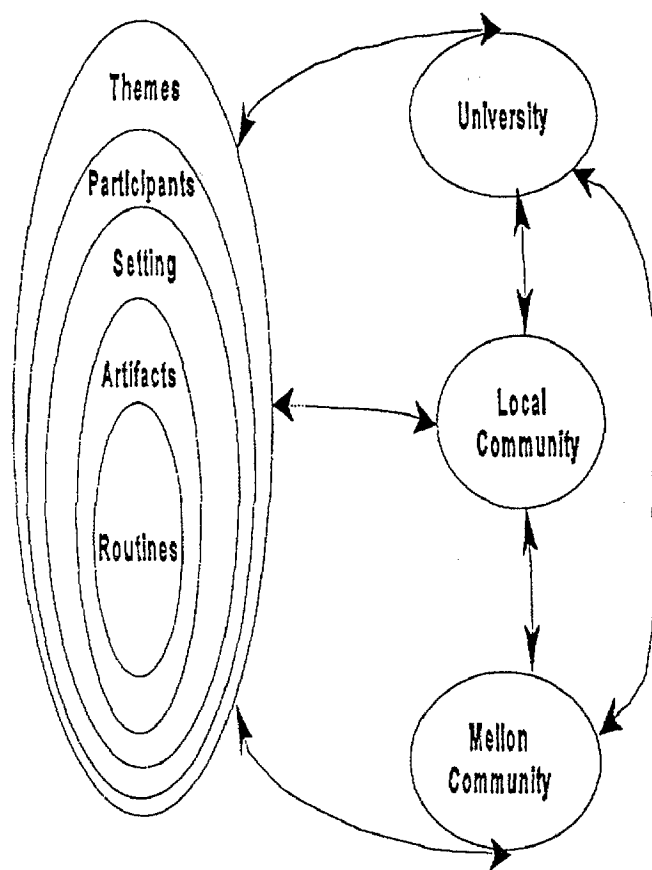


FIGURE 1. The interrelated activity systems of the Fifth Dimension.

grounds, or are simply low achievers. We have consistently observed across sites that many of these students display more competence than would otherwise be expected, given their school histories and labels. Although incompetence and failure are not absent from Fifth Dimension sites, we tried to differentiate as much as possible the factors associated with success and with failure. Therefore, part of our work has focused on trying to unpack the constellation of factors that account for these variations. We believe that investigating critical aspects of the special learning environment created in the various activity settings within the Fifth Dimension is potentially informative for thinking about student learning in the LRE.

In the following paragraphs, we focus on one student, Jimmy (see Note 1), who was diagnosed at his school as having learning disabilities. We use this case to illustrate the features of the social context we found to be associated with successful and unsuccessful performances—that is, those that were found to support or not support success (competence). We begin by providing a brief description of the San Marcos Fifth Dimension site, where Jimmy participated.

A typical day at the San Marcos Fifth Dimension site begins with children's anticipation of the club opening at 3:00 p.m. Situated within the daily activity of a Boys and Girls Club, the Fifth Dimension Project occurs four times per

week in a computer room apart from the general club activities (basketball, pool, arts and crafts, and so on). Because there are many more potential participants than the physical space can maintain, a waiting list (similar to making reservations at a restaurant) was established, thus securing a place for children while allowing them to participate in other Boys and Girls Club activities as space becomes available throughout the 2-hour session.

Once inside the Fifth Dimension, several typical routines occur, including making a name tag, signing in, getting together with a university partner, checking progress on the journey log, checking for Wizard mail and other site correspondence, and deciding on the next activity (according to progress made). After the adult-child pairing is established (typically one child and one university adult, although on some occasions two children and one university adult) and the beginning activity is determined, the activity begins. Because the Fifth Dimension is based on children's choices and task consequences, children experience a wealth of varied tasks (both computer and noncomputer) and content areas (history, math, and science), each with varied demands on literacy skills.

The following fieldnote excerpts were generated by different university students who were partners with Jimmy in varied activities at the San Marcos Fifth Dimension site. The following description of Jimmy alludes to his varied interests and talents:

Jimmy is a competent participant of the Fifth Dimension. Jimmy is a very poor reader, and a bright and charming kid. He has very elaborate strategies to avoid reading and to conceal his lack of skill at the task. He does very well in math games, and less well in games that require lots of reading. He was well liked and quite successful as a Fifth Dimension citizen, although we knew he was doing poorly in his academic work in school. He liked to hang around at the Fifth Dimension site even if he was not into his game or activity, probably for the positive attention he got there. He was living in a foster home until early 1997, when he was removed from his Escondido foster home. This happened just a week or so after he had become a YWA [Young Wizard Assistant], and we were very glad that we had done the YWA ceremony before he was moved away. All the Fifth Dimension staff were fond of Jimmy, and we kept in touch with him a bit via his classroom teacher, who forwarded letters from the Fifth Dimension staff to his new teacher and school. He reappeared briefly in the fall of this year (1998), but just for one visit. Probably related to his poor reading skills, Jimmy was a very poor writer. He usually avoided writing letters, getting his adult helpers to write for him, or writing really minimal letters. (Undergraduate fieldnote, November 1998).

In addition to attaining Young Wizard Assistant status (see Note 2), Jimmy also achieved a computer expert merit badge, which requires a fair degree of expertise. Moreover, his attendance record is interesting. Although attendance at the Fifth Dimension is completely voluntary, the activities at the Fifth Dimension must often compete with other interesting activities taking place at the site such as basketball. Nevertheless, from May 1994 to November 1998, Jimmy attended the Fifth Dimension 108 times, or a bit less than half of the available opportunities.

Observations of Jimmy as well as other students over a period of time revealed that the success many of them enjoyed depended heavily on the features of the specific activity setting in which they were engaged. To illustrate this, we present four brief excerpts from fieldnote descriptions of episodes in the San Marcos Fifth Dimension Project. Although space considerations limit what we are able to present here, these instances represent larger patterns in the data over time and across students. These features, we argue, appear to mediate competence and performance of students who are otherwise deemed unsuccessful in other traditional academic settings. A small example of this type of mediation is illustrated next.

I then volunteered to work with Jimmy. He was totally into this façade of helplessness, and he was distracted by anything. I wasn't going to fall for this portrayal of utter helplessness. He asked me to read what was printed on the screen, and I told him he could do it—I knew he could. So I stood my ground and pointed at the first word, and he began to read. I told him we could rotate, and I would read the next one [computer prompt], and he could read after that. This seemed to give him some reassurance. (Undergraduate fieldnote, September 22, 1998)

The theoretical framework that undergirds the Fifth Dimension sees social mediation and assisted performance as key elements of learning and development. For this reason the participation of the undergraduate students is a very important part of the experience. A major goal is to provide responsive assistance (Tharp & Gallimore, 1988), or assistance that is within the learners' zone of proximal development. This is a difficult role for many undergraduate students, who often come to the Fifth Dimension with "transmission" views of teaching and learning, which see the teacher as the dispenser of expertise and the student as a passive recipient. By no means are the undergraduates always the experts; students—especially those who have been with the project for a period of time—often become more proficient at the activities and routines than the undergraduates. It is important to note that although the notion of assisted performance is built in to the structure of the Fifth Dimension, it is done in a way that allows and even requires responsivity to the learner's moment-to-moment activity. That is, unlike some more inflexible types of intervention, in the Fifth Dimension, a gen-

eral principle is applied flexibly within the overall structure. This mediated assistance, we believe, helps obscure the otherwise noticeable "learning deficits" of students like Jimmy. An example of this responsive scaffolding follows.

I had heard that Jimmy needed extra help when it came to reading and writing, so that's why I was surprised at how well he did on Graficas. He said that he never learned any Spanish, so I would read him the directions on the screen in Spanish and then tell him what they meant in English. Pretty soon, he caught on and would know what a word meant in Spanish just by hearing it. He even made a few guesses of what animal was named in Spanish and got them right. Jimmy had fun with this game and wanted to keep playing it when we had completed the beginner level, but it was time to close up shop. (Undergraduate fieldnote, September 2, 1998)

The words *fun* and *play*, although not usually associated with school or academic activity, are built in to the Fifth Dimension by design. As mentioned earlier, activities at Fifth Dimension sites often compete with recreational activities. Because attendance is voluntary, the Fifth Dimension context and activities must hold a high level of interest for the participants. In essence, the play element is necessary to the continued participation of the children, and the academic aspects are necessary for the adults at the site to justify its existence. Often, there is a permeable boundary between play and education in the activities. Throughout, technology is an important mediator of the mix. Ultimately, it is the child's interest that regulates the amount and type of participation, as shown by the following:

I told Jimmy how important it was to complete a level if he wanted to go anywhere or have more options in the maze. He said "I know" very quickly, and then said, "I want to play kid pix." I told him that playing kid pix was not in the maze, and so it would not be advantageous for him to do so, but he said that he didn't care. So off he went. (Undergraduate fieldnote, October 4, 1998)

Unlike many classrooms where students have few choices, students at the Fifth Dimension are free to participate as they see fit. Although there are some incentives built into the system to encourage participation in desirable activities, students are free to select alternative activities. This element of choice is central to the alternative activities, and reflects a concern for diversity: diversity of legitimate goals, diversity of ways of achieving goals, diversity of participant abilities, diversity of personal histories, diversity of local site cultures, and diversity of the kinds of literacy promoted. Failure to participate in activities deemed desirable from an adult perspective do not mark students in the way that this might happen in

a traditional school setting. Another important aspect of the Fifth Dimension is that the emphasis is on challenging activities that sometimes tax the participant's skills:

Jane (the site coordinator) asked if I could help Jimmy on Carmen USA. He was excited to finish up the expert level, but there seemed to be problems with his game not being saved. . . . the more one becomes familiar with a game, the more fun it is to play. Jimmy and I got a warrant, pursued our man across the country, and in the end got him. Jimmy was happy and had a feeling of accomplishment. I was feeling a bit overwhelmed. (Undergraduate fieldnote, October 20, 1998)

Over and over our data suggest that working with the undergraduates is one of the most important elements to the students who participate. In addition, however, the focus is to engage in activities that are challenging, not remedial. When students are unsuccessful at a task or an activity, principles embedded in the system encourage increasing the level or adjusting the type of assistance rather than moving to easier activities. There are few traditionally remedial activities in the Fifth Dimension.

In our observations at the site where Jimmy participated as well as at other Fifth Dimension sites over a 3-year period, we have been able to identify certain patterns or features that appear to be important for the success of these students as a group. A more developed outline of these features is presented in Figure 2. For purposes of illustration we have contrasted them with instances where students tend to be less successful or competent.

The preceding examples come from a learning environment in which learning and development are viewed as a dynamic process of transformation in a specific community of learners. As Rogoff (1995) suggested, a sociocultural framework lends itself to an examination of the nature of participants' activities and how they transform over time. Although we have not completely explored this issue, our analysis of the features of these Fifth Dimension sites along the lines suggested by a sociocultural framework has allowed us to begin to unpack the features that mediate competence and success for Jimmy and other students who participate. In the last section of the article, we discuss how this might be important for thinking about programs for students with learning problems and for thinking about the notion of LRE.

RETHINKING THE LRE

The latest data indicate that the issue of LRE will become increasingly important as the special education population grows and as more students receive some or all of their education in the general classroom. For example, over the past few years, the number of school-age students with disabilities served has increased at a higher rate than the general school

enrollment. Throughout the 1990s, the number of students ages 6 to 11 with learning disabilities served increased 25.3%, the number of students ages 12 to 17 with learning disabilities increased 30.7%, and the number of students ages 18 to 21 with learning disabilities increased 14.7%. Moreover, the largest numbers of these students are those with mild disabilities, not those with more severe problems. In 1996–1997, specific learning disabilities was the largest single category for each of the age groups listed. That label accounted for 41.2% of students ages 6 to 11, 62.3% of students ages 12 to 17, and 51.7% of students ages 18 to 21. Moreover, for a variety of reasons, in the future more of these students will be educated along with their peers in general education settings. In 1995–1996, more than 95% of students with disabilities ages 6 to 21 attended schools with their nondisabled peers. Approximately 46% were removed from their general classes for less than 21% of the day; about 29% received special education and related services outside general classes for 21% to 60% of the day; and only 22% were served outside the general classroom for more than 60% of the day (U.S. Department of Education, 1998).

Providing the LRE for this increasing number of students with learning problems is important for a number of reasons, some of which were outlined by Turnbull (1994). These include the creation of the least restrictive environment principle by the Supreme Court as a matter of constitutional law; the long history of segregating students with disabilities from students who do not have disabilities; the evidence that many students with disabilities can be educated effectively in programs for students without disabilities; the belief that these students should have the opportunity to associate with, learn from, and teach students without disabilities; the expense of operating two education systems (special education and general education); and the legal principle that seeks to treat all people equally and avoid segregation by race, gender, or ability. In addition to these reasons, there is an equity and a values-based issue focused on reducing stigma, and a concern with maximizing access to opportunity, that is, to settings that promote success and competence to the limits of one's abilities. However, many discussions of LRE seem to imply that this is a physical placement such as the general education classroom.

Under current legal provisions, schools must offer a continuum of services in a variety of settings. For example, data at the federal level is kept on the numbers of students in the general class, resource room, separate classes, separate school facilities, residential facilities, and homebound/hospital settings. This continuum is generally seen as moving from less restrictive to more restrictive, or from more inclusive to less.

Currently, there is some debate about the similarities and differences among various terms and concepts related to this issue other than the LRE (for example, the Regular Education Initiative [REI] and inclusion concepts). Turnbull et al. (1995) discussed this issue in more depth than is possible here. However, the LRE principle is generally seen as promoting greater access for students with disabilities to gen-

	Activity Setting Features That Promote Failure	Activity Setting Features That Promote Success
Mediating Tools	<p>Technology is treated as a school subject to be mastered, not as a tool.</p> <p>Occasions for problem solving are infrequent or interspersed with other activities.</p> <p>Written and oral language activities and artifacts emphasize products, not process.</p>	<p>There is an emphasis on interactive technologies as tools.</p> <p>The environment is dense with occasions for authentic problem solving and communication of the process and products of problem solving.</p> <p>Written and oral language are tools used to express how tasks are accomplished—the emphasis is on process, not products.</p>
Division of Labor	<p>Authority is centrally located in the teacher or other adults.</p> <p>There are few roles for students to aspire to other than that of student.</p> <p>Personal choice and self-direction are often subordinated to the goals of the class or teacher.</p> <p>Teacher and student are rarely coparticipants in learning activities.</p>	<p>There is a mythical/virtual entity (the Wizard, El Maga, Golem Proteo, etc.) who stimulates, amuses, oversees, and coordinates participants.</p> <p>There are a variety of roles available to students.</p> <p>Activities allow a substantial element of personal choice and self-direction.</p> <p>Adults and children work side by side as coparticipants.</p>
Community of Practice	<p>Recognition is through test scores, grades, and individual achievement.</p>	<p>Status is defined by length and degree of participation, accumulation of knowledge, and changes in role.</p>
Objectives/ Outcomes	<p>Goals are mostly fixed by the curriculum and demands for testing; There is little room for negotiation.</p> <p>Learning is marked by grades and test scores.</p> <p>Achievement and learning are usually treated as individual properties.</p>	<p>There is a focus on diversity of goals, diversity in ways of achieving goals, and diversity of language and literacies promoted.</p> <p>Becoming expert (changing roles) is a marker of learning.</p> <p>Learning is almost entirely mediated by a peer or an adult (undergraduate).</p>
Rules and Procedures	<p>Play and educational activities are strictly marked temporally and are separated.</p> <p>Participation is mandatory.</p> <p>Grading and assessment are very public, frequent, and central to the activities.</p>	<p>Activities are a mixture of play and education. The play element is needed for children to participate; the education element is needed for the adults to justify support.</p> <p>Participation is voluntary.</p> <p>Performance is not tied to grading or testing, but is based on local criteria of success intrinsic to the community of practice.</p>

FIGURE 2. Features of different types of learning environments.

eral classrooms, whereas the REI seeks to restructure general education so that it accommodates the needs of students with disabilities. Inclusion, on the other hand, is seen as promoting the restructure of general education so that all students are

educated in that setting from the beginning of their school careers.

Notwithstanding the important differences between these approaches, a common emphasis appears to be the focus

of the student's educational setting. Our analysis suggests that from an instructional perspective, this unit of analysis is too broad. Within the same context (i.e., the physical setting, such as the general education classroom or the pullout program) there may be a range of activity settings, some in which success and competence are more likely to be noted than in others.

The fact that the Fifth Dimension is found in a nonschool setting raises the question of whether that fact is solely responsible for the patterns we have seen. Indeed, some research has indicated that some of the most desirable learning features (e.g., intrinsic motivation, flexibility, a range of learning arrangements) are frequently found in nonschool environments. However, Resnick (1991) cautioned that simply removing the student physically from the classroom is insufficient because the majority of the supplemental learning environments outside schools only replicate the typical interaction and content provided in schools. Furthermore, piecemeal attempts at adopting nonschool characteristics into the educational setting have failed to be sustained (Cuban, 1990; Sarason, 1990, 1996). We argue that the fact that the Fifth Dimension is located in and out of school settings is not important, but rather that the careful engineering of socio-culturally relevant activity settings within the larger context is important. Only by trying to unpack the features of these activity settings have we been able to begin to understand why we have observed what we have observed.

By extension, we argue that trying to understand what LRE means for any individual child means that it is necessary to understand the range and nature of the activity settings within the setting. It is not sufficient to propose a placement, even the general education classroom, as the LRE without reference to a finer-grained analysis of the essential features and social organization of the variety of activity settings that make up that placement. It is important to note that we do not argue the value of any one setting as the optimal one, from an instructional perspective. More critical is that the type and amount of social mediation available to the individual in general education are seen as emphasizing either academic considerations or social considerations. Yet a view of learning as social mediation within the learner's zone of proximal development (Tharp & Gallimore, 1988) blurs the distinctions between the cognitive and social aspects of learning; they are part of a unitary whole and cannot be considered independently.

The results of our work and that of our colleagues (Blanton, Moorman, Hayes, & Warner, 1997; Mayer, 1997; Schustack, Strauss, & Worden, 1997) suggests that the Fifth Dimension provides additional opportunities for children to engage in academic tasks and that children achieve at increasingly higher levels on tasks in which they engage. Specifically, we have found that social relationships and mediation are defining features of the experiences of both the children and the undergraduates in the Fifth Dimension. Further, students who have school-based special education labels and other children considered at risk participate in the Fifth Di-

mension in the same manner as nonlabeled counterparts and with similar success (Trueba, 1987; Valencia, 1998). In short, their disabilities are relatively transparent. Our analysis suggests that the primary reason for this is the social organization of the Fifth Dimension. Although students make errors, display incompetence, and engage in maladaptive behavior, these do not mark a child in more than a temporary way. That is, students' transgressions, mistakes, and so on, are absorbed by the social context such that the child's competence is not adversely or permanently affected.

As others from a sociocultural bent (e.g., McDermott, 1993) have argued, constructs such as competence and success reside not solely in the individual but rather in the interaction of the individual with others in specific activity settings. It follows that judgments about competence and success, as well as steps taken to promote them, should draw on this expanded view. It should be noted that the point being argued is not that individual differences do not exist, nor that they are not important in ultimate academic and later life success. Rather, we argue that these differences interact with the social organization of specific activity settings that mediate outcomes in significant ways. In this light, the LRE should be seen as an interaction of individual characteristics with the features of specific activity settings, rather than a placement in a physical setting. As sociocultural theorists argue, learning is social, and research and interventions related to learning and development require a focus on not only the characteristics of the individual but also the student in interaction within activity settings. ■

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NOTES

1. Jimmy is a pseudonym.
2. YWA refers to Young Wizard Assistant, a status that students attain after having participated in the Fifth Dimension for a period of time and successfully completing a sequence of various tasks and activities. Transformation to YWA status is often celebrated by the entire group and is often seen as a high-status position by participants.

REFERENCES

- Ashton, P. (1996). The concept of activity. In L. Dixon-Krauss (Ed.), *Vygotsky in the classroom: Mediated literacy instruction and assessment*. (pp. 111-124). White Plains, NY: Longman.
- Blanton, W., Moorman, G., Hayes, B., & Warner, M. (1997). Effects of participation in the Fifth Dimension on far transfer. *Journal of Educational Computing Research*, 16, 371-396.
- Council for Exceptional Children. (1993). *Policy on inclusive schools and community settings*. Reston, VA: Author.

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- Cuban, L. (1990). Reforming again and again and again. *Educational Researcher*, 19(2), 2-11.
- De Avila, E. A., & Duncan, S. E. (1991). *Language assessment scales*. Monterey, CA: CTB.
- Learning Disabilities Association. (1993). Position paper on full inclusion of all students with learning disabilities in the regular education classroom. *Journal of Learning Disabilities* 26, 594.
- Mayer, R. (1997). Out-of-school learning: The case of an after-school computer club. *Journal of Educational Computing Research*, 16, 333-336.
- McDermott, R. P. (1993). The acquisition of a child by a learning disability. In S. Chaiklin & J. Lave (Eds.), *Understanding practice: Focus on activity and context* (pp. 269-305). Cambridge, England: Cambridge University Press.
- McDermott, R. P., & Varenne, H. (1995). Culture as disability. *Anthropology & Education Quarterly*, 26(3), 324-348.
- Moll, L. C., Diaz, E., Estrada, E., & Lopes, L. M. (1992). Making context: The social construction of lessons in two languages. In M. Saravia-Shore & S. F. Arvizu (Eds.), *Cross-cultural literacy: Ethnographies of communication in multiethnic classrooms* (pp.339-363). New York: New Garland.
- National Association of State Boards of Education. (1992). *Winners all: A call for inclusive schools*. Washington, DC: Author.
- National Joint Committee on Learning Disabilities. (1993). A reaction to full inclusion: A reaffirmation of the right of students with learning disabilities to a continuum of services. *Journal of Learning Disabilities*, 26, 596.
- Resnick, L. (1991). Literacy in and out of school. In S. R. Graubard (Ed.), *Literacy: An overview of fourteen experts* (pp. 169-185). New York: Noonday Press.
- Rogoff, B. (1995). Observing sociocultural activity on three planes: Participatory appropriation, guided participation, and apprenticeship. In J. V. Wertsch, P. Del Rio, & A. Alvarez (Eds.), *Sociocultural studies of mind* (pp. 139-164). Cambridge, UK: Cambridge University Press.
- Sarason, S. (1990). *The predictable failure of educational reform: Can we change course?* San Francisco: Jossey-Bass.
- Sarason, S. (1996). *Revisiting the culture of the school and the problem of change*. New York: Teachers College Press.
- Schustack, M., Strauss, R., & Worden, P. (1997). Learning about technology in a non-instructional environment. *Journal of Educational Computing Research*, 16, 337-351.
- Tharp, R. G., & Gallimore, R. (1988). *Rousing minds to life: Teaching, learning and schooling in a social context*. New York: Cambridge University Press.
- Trueba, H. (1987). *Success or failure: Learning and the language minority student*. New York: Newbury House.
- Turnbull, A. P., Turnbull, H. R., Shank, M., & Leal, D. (1995). *Exceptional lives: Special education in today's schools*. Upper Saddle River, NJ: Prentice Hall.
- Turnbull, H. R. (1994). *Free appropriate education: The law and children with disabilities*. Denver, CO: Love.
- U.S. Department of Education. (1998). *To assure the free appropriate public education of all children with disabilities: Twentieth annual report to Congress on the implementation of the Individuals with Disabilities Education Act*. Washington, DC: U.S. Government Printing Office.
- Valencia, R. R. (1998). *The evolution of deficit thinking: Educational thought and practice*. Bristol, PA: Falmer Press.
- Varenne, H., & McDermott, R. P. (1998). *Successful failure: The school America builds*. Boulder, CO: Westview Press.
- Yell, M. L. (1995). Judicial review of least restrictive environment disputes under the IDEA. *Illinois School Law Quarterly*, 15, 176-195.

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